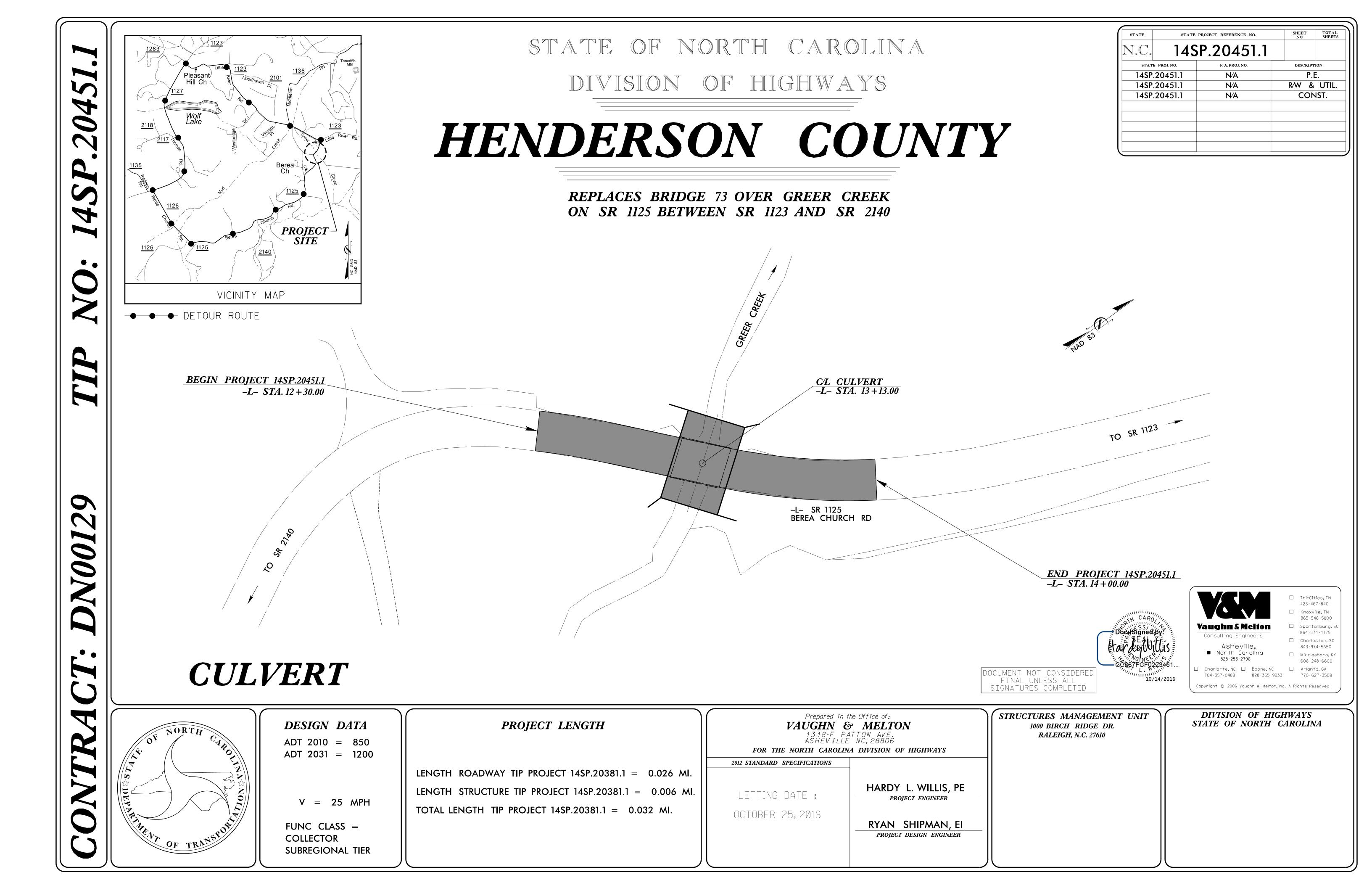
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(-)1.1300% (+)0.8562%

HORIZONTAL CURVE DATA -L-

T = 62.95'R = 297.69'

GRADE DATA -L-

22'-6" 23'-0" 14'-1" 3'-6" 14'-1" 30'-0" 24'-10" 10'-6" 10'-9" FLOW PROFILE ALONG & CULVERT

TOTAL STRUCTURE QUANTITIES ALUMINUM BOX CULVERT LUMP SUM REMOVAL OF EXISTING STRUCTURE, STA. 13+13 LUMP SUM ASBESTOS ASSESSMENT LUMP SUM CULVERT EXCAVATION, STA. 13+13 LUMP SUM FOUNDATION CONDITIONING MATERIAL, BOX CULVERT 94.1 TONS CHANNEL SUBSTRATE MATERIAL 100 TONS RIP RAP, CLASS I 38 TONS GEOTEXTILE FOR DRAINAGE 124 SY CLASS A CONCRETE (GUARDRAIL FOOTING) 6.6 CY REINFORCING STEEL (GUARDRAIL FOOTING) 612 LBS

NOTES

ASSUMED LIVE LOAD ---- HL-93 OR ALTERNATE LOADING.

DESIGN FILL ---- MAX. = 4.00' MIN. = 3.93' FOR OTHER DESIGN DATA AND NOTES, SEE STANDARD NOTES SHEET.

THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF CULVERT BEFORE STAKING IT OUT TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL.

FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC MANAGEMENT PLANS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY. SEE SPECIAL PROVISIONS.

FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.

THE EXISTING STRUCTURE CONSISTING OF 1 SPAN @ 25'-6", WITH A CLEAR ROADWAY WIDTH OF 21.1 FT., WITH TIMBER DECK ON I-BEAMS AND TIMBER END BENTS WITH TIMBER CAPS ON TIMBER PILES. AND LOCATED .1 MI. W. OF JCT. SR 1123 SHALL BE REMOVED. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE DETERIORATE DURING CONSTRUCTION OF THE PROPOSED BRIDGE, A LOAD LIMIT MAY BE POSTED AND MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

TEMPORARY SHORING MAY BE REQUIRED. SEE STANDARD ROADWAY DRAWING NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

> HYDRAULIC DATA DESIGN DISCHARGE = 790 CFS YRS DESIGN FREQUENCY = 25 DESIGN HW ELEVATION = 2122.9 BASE DISCHARGE = 1130 CFS BASE FREQUENCY = 100 YRS BASE HW ELEVATION = 2124.59 FΤ OVERTOPPING DISCHARGE = 1830 CFS OVERTOPPING FREQUENCY = 500 + YRS OVERTOPPING ELEVATION = 2127.3 FΤ DRAINAGE AREA = 2.6 SQ.MI. W.S.ELEVATION AT DATE OF SURVEY UNKNOWN

THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL REMOVE THE BRIDGE AND SUBMIT PLANS FOR DEMOLITION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

FOR ASBESTOS ASSESSMENT FOR BRIDGE DEMOLITION AND RENOVATION ACTIVITIES, SEE SPECIAL PROVISIONS.

EXCAVATE 1'-0" BELOW CULVERT AND FOOTING AND REPLACE WITH FOUNDATION CONDITIONING MATERIAL IN ACCORDANCE WITH ARTICLE 414 OF THE STANDARD SPECIFICATIONS.

THE QUANTITY OF RIP RAP TO BE PAID FOR WILL BE THE ACTUAL NUMBER OF TONS OF EACH CLASS RIP RAP WHICH HAS BEEN INCORP-ORATED INTO THE COMPLETED AND ACCEPTED WORK. THE RIP RAP WILL BE MEASURED BY BEING WEIGHED ON TRUCKS ON CERTIFIED PLATFORM SCALES OR OTHER CERTIFIED WEIGHING DEVICES. THE QUANTITY OF RIP RAP WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON, "RIP RAP CLASS I".

ALUMINUM BOX CULVERT TO BE DESIGNED BY A NORTH CAROLINA REGISTERED ENGINEER IN ACCORDANCE WITH APPLICABLE PORTIONS OF STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES ADOPTED BY AASHTO. CONSTRUCTION SHALL MEET THE APPLICABLE SECTIONS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.

NATIVE MATERIAL REMOVED FROM THE CHANNEL TO ALLOW FOR THE INSTALLATION OF THE CULVERT SHALL BE USED FOR BACKFILLING INSIDE THE CULVERT. SELECT BACKFILL SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR "CULVERT EXCAVATION."

ALUMINUM HEADWALLS AND WINGWALLS ARE DETAILED IN THESE PLANS, AND ARE TO BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS. HOWEVER, THE CONTRACTOR MAY ALTERNATELY CONSTRUCT REINFORCED CAST-IN-PLACE HEADWALLS AND WINGWALLS. IF THIS ALTERNATE IS CHOSEN, THE CONTRACTOR SHALL FURNISH DESIGN OF A PROFESSIONAL ENGINEER REGISTERED IN NORTH CAROLINA.

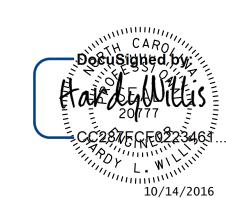
SHEET 1 OF 4

GRADE DATA

GRADE POINT ELEV. @ STA. 13+13.00 -L- = 2127.20' BED ELEV. @ STA. 13+13.00 -L- = 2114.2' ± ROADWAY SLOPES 2:1

ADT = 1200 VPD FOR YEAR 2031.

OCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED





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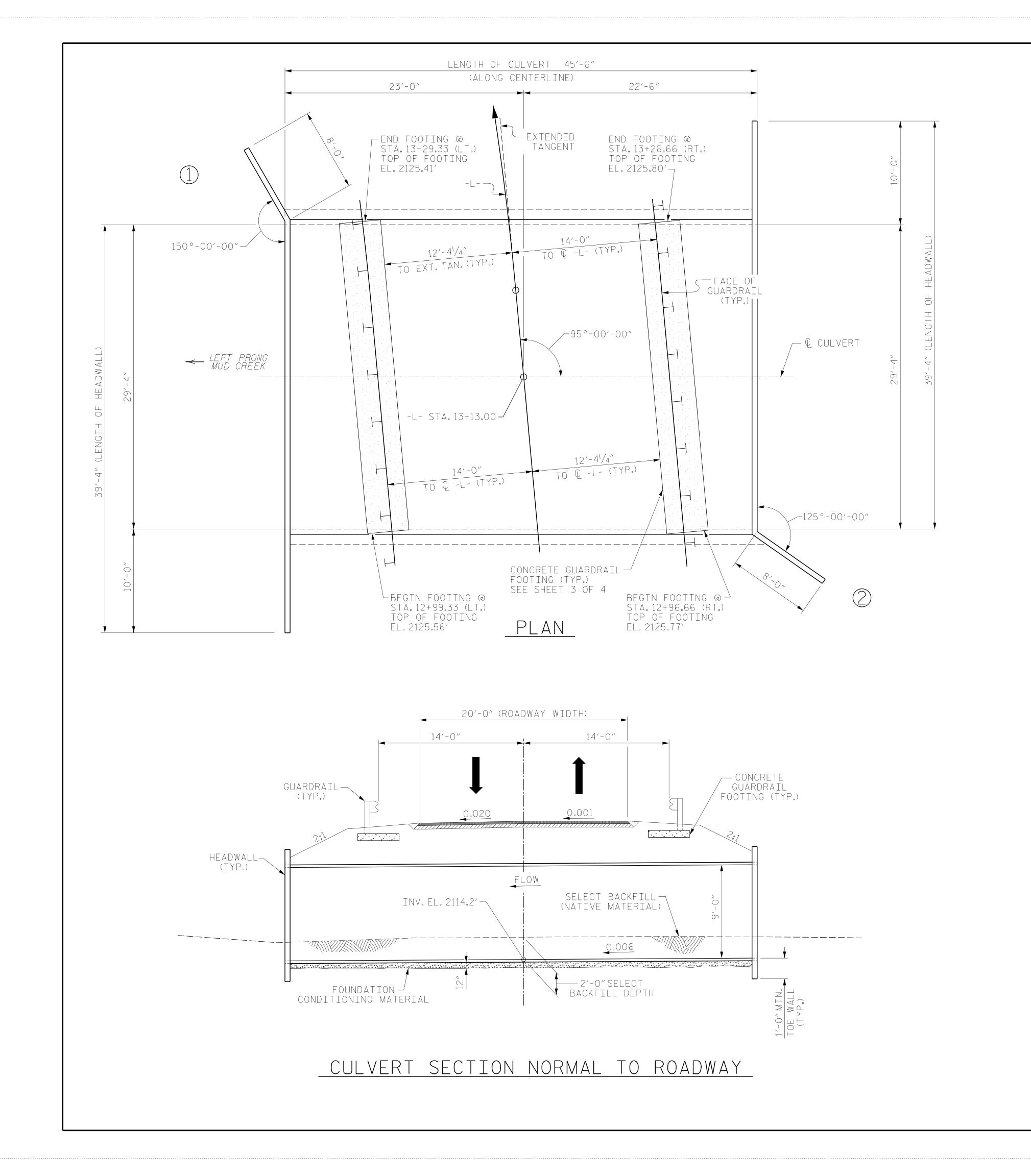
PROJECT NO. <u>14SP.20451.1</u> HENDERSON COUNTY STATION: 13+13.00 -L-

> STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

REPLACES BRIDGE NO.

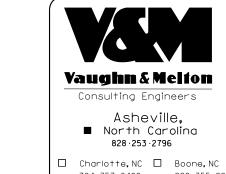
29'-4" X 9'-0" ABC 95° SKEW LEFT PRONG OF MUD CREEK

SHEET NO REVISIONS S-1 DATE: DATE: NO. BY: DWN. BY: MAF DATE: 7/16 TOTAL SHEETS DATE: 7/16 CHKD. BY: HLW



PROJECT NO. <u>145P.20451.1</u> HENDERSON COUNTY STATION: 13+13.00 -L-

SHEET 2 OF 4



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OCUMENT NOT CONSIDERED DWN. BY: MAF FINAL UNLESS ALL SIGNATURES COMPLETED CHKD. BY: HLW

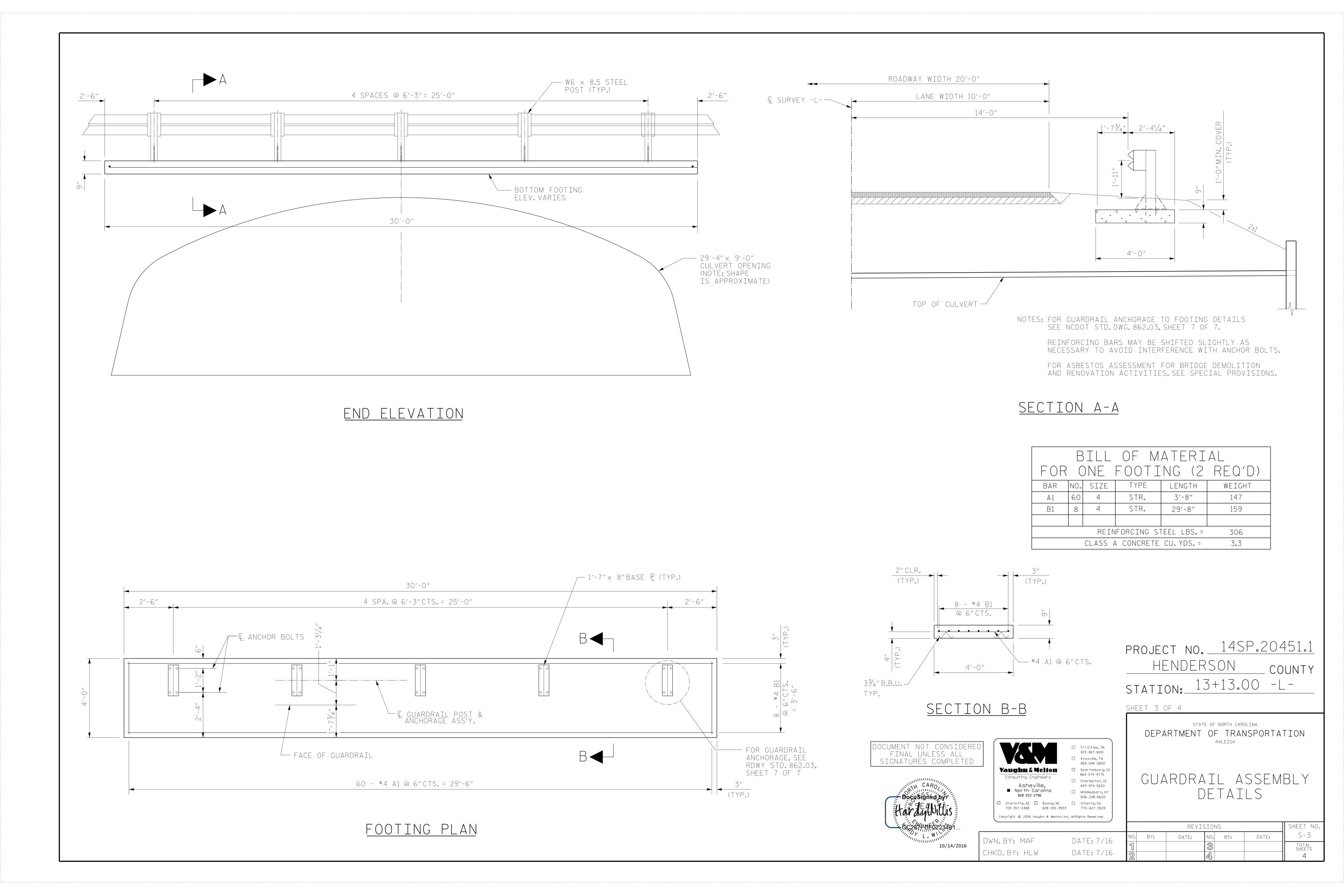
CHKD.BY: HLW

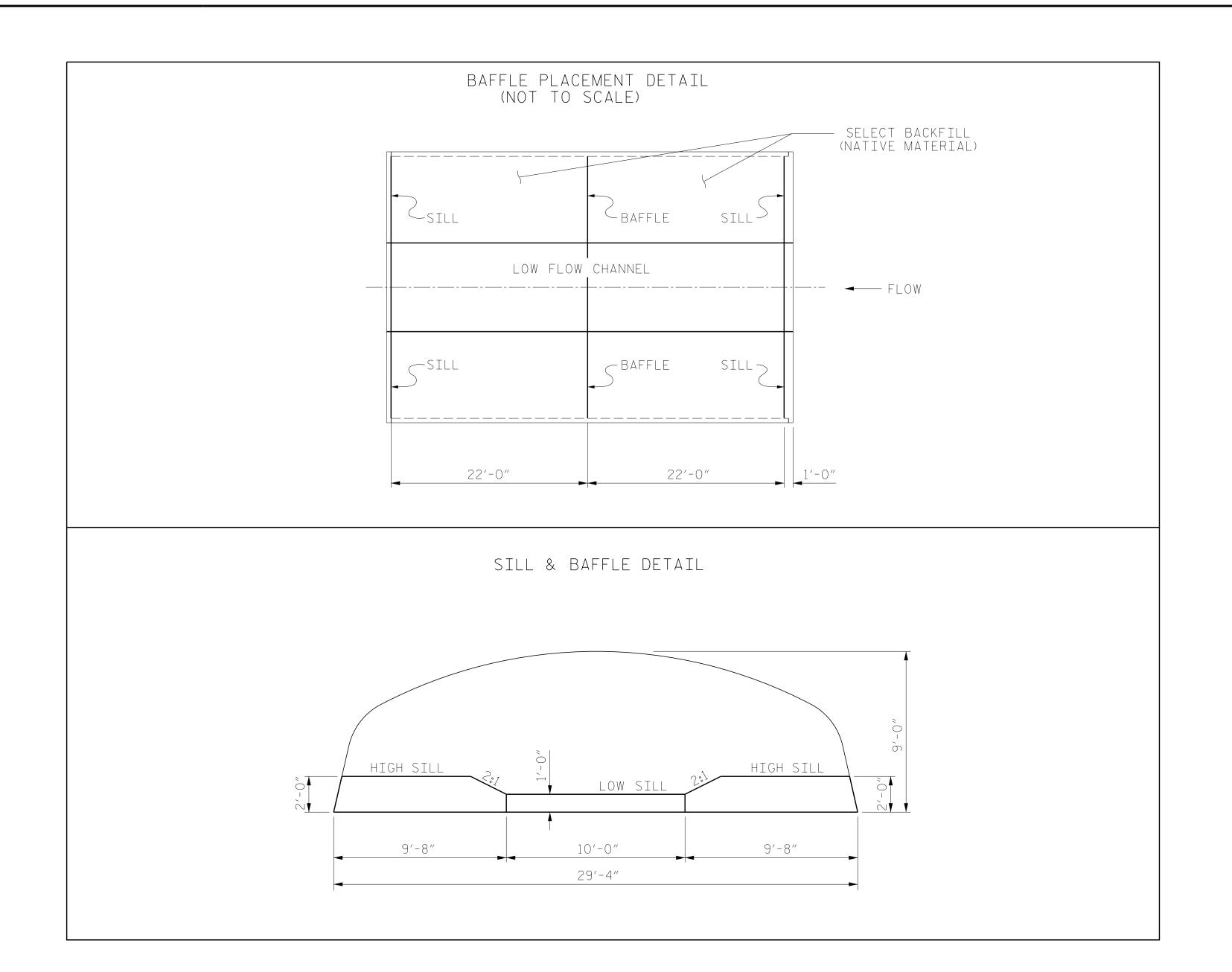
DATE: 7/16 DATE: 7/16 DEPARTMENT OF TRANSPORTATION RALEIGH 29'-4" X 9'-0" ABC

STATE OF NORTH CAROLINA

95° SKEW LEFT PRONG OF MUD CREEK

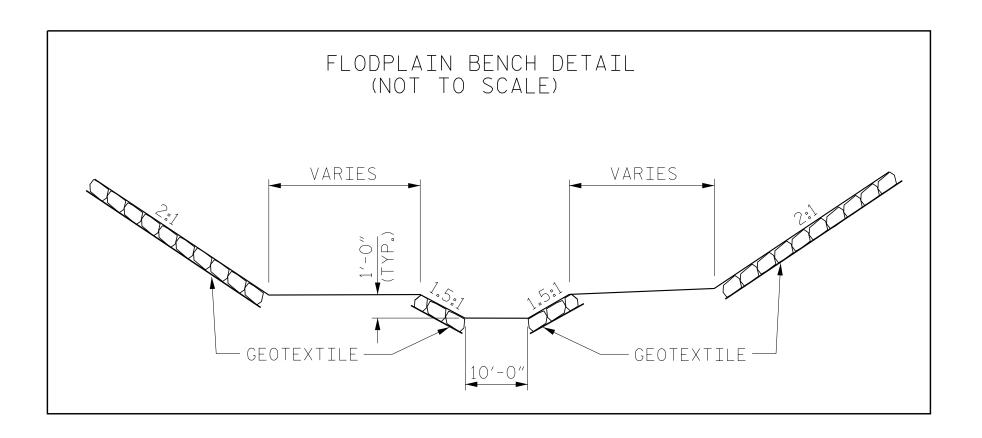
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a	BY:	DATE:	NO.	BY:	DATE:	S-2
			3			TOTAL SHEETS
			4			4





NOTES:

- 1) BED MATERIAL BETWEEN SILLS/BAFFLES IN THE CULVERT SHALL PROVIDE A CONTINUOUS LOW FLOW CHANNEL. THE MATERIAL SHALL BE NATIVE BED MATERIAL THAT IS EXCAVATED FROM STREAM BED DURING CONSTRUCTION OF CULVERT. MATERIAL LARGER THAN 12 INCHES SHALL NOT BE PLACED WITHIN THE LOW FLOW CHANNEL. CHANNEL SUBSTRATE MATERIAL MAY BE USED TO SUPPLEMENT NATIVE BED MATERIAL. BED MATERIALS SUBJECT TO APPROVAL BY THE ENGINEER.
- 2) GEOTEXTILE FABRIC TO BE USED BENEATH CLASS I RIP RAP IN ALL AREAS.



PROJECT NO. 14SP.20451.1

HENDERSON COUNTY

STATION: 13+13.00 -L-

SHEET 4 OF 4

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

RALEIGH

SILL, BAFFLE & STRUCTURE EXCAVATION DETAILS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DWN. BY: MAF DATE: 7/16
CHKD. BY: HLW DATE: 7/16

REVISIONS
SHEET NO.

BY: DATE: NO. BY: DATE:

3 TOTAL SHEETS
4 4

Vaughn & Melion

Consulting Engineers

Asheville,

North Carolina
828.253.2796

Tri-Cities, TN
423·467·840I

Knoxville, TN
865·546·5800

Spartanburg, S
864·574·4775

865.546.5800

Spartanburg, SC 864.574.4775

Charleston, SC 843.974.5650

Middlesboro, KY 606.248.6600

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS ---- A.A.S.H.T.O. (CURRENT) LIVE LOAD ----- SEE PLANS IMPACT ALLOWANCE STRESS IN EXTREME FIBER OF STRUCTURAL STEEL - AASHTO M270 GRADE 36 - 20,000 LBS.PER SQ.IN. - AASHTO M270 GRADE 50W - 27.000 LBS.PER SQ.IN. - AASHTO M270 GRADE 50 - 27,000 LBS.PFR SQ.TN. REINFORCING STEEL IN TENSION GRADE 60 - - 24,000 LBS. PER SQ. IN. ----- 1.200 LBS.PER SQ.IN. CONCRETE IN COMPRESSION CONCRETE IN SHEAR STRUCTURAL TIMBER - TREATED OR UNTREATED - EXTREME FIBER STRESS - - - - - 1,800 LBS. PER SQ. IN. COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER ----375 LBS. PER SQ. IN. EQUIVALENT FLUID PRESSURE OF EARTH - - - - -30 LBS. PER CU. FT.

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2012 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

(MINIMUM)

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4"WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1-1/2"RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4"FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4"RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS.
SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER

PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16 INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

ENGLISH

JANUARY, 1990